Meeting Date: December 9, 2003
Date Prepared: December 9, 2003

MULTI-AGENCY RADIATION SURVEY AND SITE INVESTIGATION MANUAL (MARSSIM) WORKGROUP MEETING NOTES

TUESDAY, DECEMBER 9, 2003

ATTENDEES:

U.S. Environmental Protection Agency - OSWER/ERT-West: C. Petullo
U.S. Environmental Protection Agency - Headquarters: K. Klawiter
U.S. Environmental Protection Agency - Headquarters: L. Bender
U.S. Environmental Protection Agency - NAREL: V. Lloyd (by phone)
U.S. Environmental Protection Agency - Region II: N. Azzam
U.S. Nuclear Regulatory Commission - RES: R. Meck
U.S. Nuclear Regulatory Commission - RES: G. Powers
U.S. Nuclear Regulatory Commission - NMSS: J. DiCicco
U.S. Air Force: R. Bhat
U.S. Air Force: Major D. Caputo
U.S. Navy: S. Doremus
U.S. Army: D. Alberth
U.S. Department of Energy (DOE/EM): A. Williams
U.S. Department of Homeland Security (formerly DOE/EML): C. Gogolak

MEMBERS OF THE PUBLIC:

Cabrera Services, Inc.: S. Hay (U.S. Air Force Contractor)

DISCUSSION

C. Petullo opened the meeting. The Workgroup reviewed the agenda and made plans for the rest of meeting. The Appendix and FAQ on MDC development were not ready to be discussed, so the agenda for Thursday was revised.

R. Meck distributed a draft version of a paper on MARSSIM, MARSAME, and MARSAS. An abstract of the paper has been accepted for presentation at the International Radiation Protection Agency (IRPA) meeting in Madrid, Spain. The MARSSIM Workgroup members are listed as co-authors. It was recommended that each co-author get approval from their agency, which will also ensure that their supervisor's are aware of what the Workgroup is doing. The members will review the paper and discuss on Thursday.

D. Caputo requested that some time be set aside on Thursday to discuss generic MARSSIM issues. The Air Force had some questions about Class 2 surveys and classification to discuss with the Workgroup.

REVIEW AND APPROVAL OF SEPTEMBER MEETING MINUTES

The Workgroup reviewed the draft minutes from the September Workgroup meeting and provided comments. R. Meck agreed to provide 1 or 2 sentences on Scenario B to be included at line 542. V. Lloyd will make the suggested changes and provide a final version of the minutes to the Workgroup for posting on the web site.

Workgroup CHARTER

R. Meck provided copies of the revised Workgroup charter for the members to sign. The charter was revised primarily to include a representative of the Department of Homeland Security. A. Williams stated that he would not be able to sign the charter for DOE. C. Petullo discussed DOE's position in a phone conversation with Andy Wallo from DOE. A. Wallo was concerned about accountability of the MARSSIM Workgroup and recommended that the Workgroup become a subcommittee under the Interagency Steering Committee on Radiation Standards (ISCORS). A. Wallo will talk about his concerns with the EPA and NRC representatives to ISCORS. The Workgroup chair and Agency representatives other than DOE signed each of the copies of the revised charter. DOE will make a decision before Christmas about signing the MARSSIM Workgroup charter.

The Workgroup dismissed contractors from the room to discuss contractor support until the lunch break.

LUNCH

MARSAME DEVELOPMENT

The Workgroup reviewed the draft matrix of factors to consider during design and implementation of release surveys. The draft matrix was developed based on discussions from the October 22, 2004 meeting. The concept was to develop a classification scheme based on the difficulty associated with performing the survey, similar to NRC guidance for using MARSSIM. NRC provides seven levels of complexity for MARSSIM surveys ranging from sealed sources (easy to perform) to contaminated groundwater (very difficult to perform). The goal is to provide a guidance document where the user only needs to read until their problem is resolved. It shouldn't be necessary to read the entire supplement to determine how to survey one small item.

Several discussions focused on the form of the release criterion. Regulatory Guide 1.86 limits

only apply to surface radioactivity. It isn't possible to evaluate the results of a volumetric survey using a surface radioactivity release criterion. NUREG-1640 provides both surface and volumetric $DCGL_{ME}$ values[1]. This raised issues about multiple release criteria (e.g., surface and volumetric) and sequential surveys and evaluation (e.g., test both release criteria separately). The Workgroup also discussed the possibility that the problem could be simplified on a case-specific basis (e.g., a metal object will be melted so surface radioactivity is not an issue for compliance, but may be for estimating total activity). D. Caputo suggested that the term "evaluable" be considered as a factor for designing surveys. Evaluable would be the ability to demonstrate compliance with the release criterion.

Additional discussions focused on the relationship between the MDC and the $DCGL_{ME}$, and how this could impact the survey design. For situations where the MDC is lesser than or approximately equal to the $DCGL_{ME}$, materials and equipment can be treated using the MARSSIM guidance. C. Gogolak suggested that in these situations the user is more concerned with the minimum quantifiable concentration (MQC) being less than or equal to the $DCGL_{ME}$. Situations where the MDC or MQC is approximately equal to the $DCGL_{ME}$ brought up the potential for indistinguishable from background surveys, or Scenario B applications. It is important to pay attention to how the MDC or MQC is calculated. If the MDC or MQC is calculated conservatively or realistically, and the MQC equals the $DCGL_{ME}$, and 100% of the material or equipment is surveyed and passes, that is an acceptable survey. However, there are a lot of "ifs" to account for, and the MARSAME guidance will need to address MDC and MQC requirements and the gray area around the calculations.

The Workgroup discussed using terms like measurable or quantifiable to describe materials and equipment. There was also a discussion of how surrogate measurements could be used to quantify activity in difficult-to-access areas. The terms measurable and quantifiable need to be clearly defined before they can be used in the guidance.

The Workgroup decided to look at the "easy" case and develop a survey. The easy case was defined as the situation where the MDC or MQC is much greater than the $DCGL_{ME}$ so measurement uncertainty would not be an issue during survey design. The example was one hammer with depleted uranium or natural uranium contamination and all surfaces were measurable. There was a discussion of different types of DCGLs (e.g., based on maximum or average activity). A Class 1 survey may be measuring one side of the hammer, then flipping it over to survey the other side. A Class 2 survey may include scanning one side (25 to 50% coverage), and Class 3 may involve scanning just the head of the hammer (judgmental). G. Powers pointed out that sometimes technicians will survey everything except where they are holding the equipment (i.e., all but the handle).

[1] NUREG-1640 does not use the term $DCGL_{ME}$. The term $DCGL_{ME}$ will be used in the MARSAME Supplement and is synonymous with NRC's terminology "release limits for clearance of materials and equipment."

The Workgroup discussed several alternate descriptions of the easy case, including:

- hammer is stored in a neutron field so it is potentially activated
- there is a "hot spot" on the hammer (one or several locations)
- there is a truckload of hammers instead of just one

The easy case could be surveyed using 100% scanning, box counter, conveyors, or a series of short counts on all surfaces. The survey would need to demonstrate that the entire item demonstrates compliance. A discussion of documentation requirements was postponed.

The Workgroup started developing a list of factors or variables that could affect the complexity of a release survey.

- accessibility/geometry
- radionuclides and types of radiation
- MDC or MQC relative to the $DCGL_{ME}$
- activity levels relative to the $DCGL_{ME}$ (potential for radioactivity, not important for easy case)
- amount of surface area or volume that can be measured (measurability)
- survey unit size relative to modeling assumptions or specify survey unit size (anything smaller than modeled or specified survey unit size can use that DCGL, otherwise divide into smaller segments)

The Workgroup also discussed classification as a factor to be considered when designing a release survey. There was a brief discussion on the potential use of preliminary surveys (i.e., scoping, characterization) to help with classification. C. Gogolak reminded the Workgroup that there was a one-to-one relationship between classification and survey complexity based on contamination potential in MARSSIM, that may not always apply to materials and equipment. MARSSIM did not consider the situation where the scan MDC was much greater than the $DCGL_W$ and the area could be released based on a 100% scan of the area. D. Caputo and K. Klawiter pointed out that there are feasibility issues that need to be considered during survey design (e.g., technical, financial, temporal issues).

The discussions were summarized by defining what was needed to proceed with the discussion. Definitions of key terms, such as 100% measurable or 100% quantifiable, are needed. The Workgroup needs to define the minimum requirements for an "easy" survey. The easy survey design should be simple and consider what is being done to release materials and equipment currently. If a survey doesn't meet these minimum requirements, a more complicated survey design would be required.

ADJOURN

Meeting Date: December 10, 2003
Date Prepared: December 17, 2003

MULTI-AGENCY RADIATION SURVEY AND SITE INVESTIGATION MANUAL (MARSSIM) WORKGROUP MEETING NOTES

WEDNESDAY, DECEMBER 10, 2003

ATTENDEES:

U.S. Environmental Protection Agency - OSWER/ERT-West: C. Petullo
U.S. Environmental Protection Agency - Headquarters: K. Klawiter
U.S. Environmental Protection Agency - Headquarters: L. Bender
U.S. Environmental Protection Agency - NAREL: V. Lloyd (by phone)
U.S. Environmental Protection Agency - Region II: N. Azzam
U.S. Nuclear Regulatory Commission - RES: R. Meck
U.S. Nuclear Regulatory Commission - RES: G. Powers
U.S. Nuclear Regulatory Commission - NMSS: J. DiCicco
U.S. Air Force: Major D. Caputo
U.S. Navy: S. Doremus
U.S. Army: D. Alberth
U.S. Department of Energy (DOE/EM): A. Williams
U.S. Department of Homeland Security (formerly DOE/EML): C. Gogolak

MEMBERS OF THE PUBLIC:

Cabrera Services, Inc.: S. Hay (U.S. Air Force Contractor)

DISCUSSION

The meeting started with a review of discussions from the previous day. The goal of the surveys is to make a decision on whether or not the materials or equipment can be released. The guidance should be consistent with or similar to surveys currently being performed. Many licensees are scanning 100% of accessible surfaces and releasing equipment using Regulatory Guide 1.86 as the release criterion. If this practice is acceptable, it should be reflected in the guidance. If it is not acceptable, the reasons why it is not acceptable should be in the guidance.

The Workgroup continued discussions on defining the terms measurable, quantifiable, and evaluable. C. Gogolak described MQOs as an application of the DQO process applied to measurement systems. One process is described in the MARLAP manual. The objective is to

demonstrate in a technically defensible manner that you can measure what you say you can measure. It is important to avoid optimistic estimates, and realistically evaluate measurement capability.

The Workgroup provided ideas for defining measurability. Measurability is the ability to quantify activity at a certain level at a specified level of confidence. Measurability is the ability to measure all of the radioactivity on or within material or equipment at levels less than or equal to the $DCGL_{ME}$. Draft Chapter 2 of MARSAME includes a discussion of measurability. Measurable radioactivity is radioactivity that can be quantified and meets the data quality objectives (DQOs) and measurement quality objectives (MQOs) established for the survey. Radioactivity that is quantified using known or predicted relationships developed from process knowledge or preliminary measurements is measurable as long as the relationships are developed and verified as specified in the DQOs and MQOs. S. Doremus and G. Powers described measurability as a process with results similar to detection or quantification.

The Workgroup discussed the process for surveying materials and equipment. The guidance needs to reflect the instructions that would be given a technician for surveying a roomful of "stuff." K. Klawiter pointed out that the draft matrix from the October 22 meeting can be collapsed into four categories: MARSSIM Class 1, 2, and 3 and the 100% measurable scenario. Two alternatives were proposed for discussions describing the process. Both approaches were considered valid, with the commonality being the need to identify the critical variables.

1. Identify simplest case, list criteria to design a framework (bottom up)
2. Define a framework, then develop the survey criteria (top down)

The Workgroup divided into agencies to discuss the alternatives, and decided to use alternative one to define the critical variables based on the simple survey case.

It was agreed that the simplest case is when the materials or equipment are non-impacted and no survey is required.

The simplest case where a survey would be required was redefined as the ideal survey case. The example was defined as:

- Single Isotope
- Easy to Measure
  - MDC<DCGL
  - all areas accessible
  - distribution, geometry, calibration are known and controlled

- Size of Item
  - size vs. detector effective area
  - manageability
- Homogeneity of Radioactivity
- Short Count Time (relative to time available)
- Low Background or Not Present in Background

There was a discussion of total efficiency and how it related to measurability. The total efficiency includes a source (instrument) efficiency and a surface efficiency. To account for human factors a surveyor efficiency can be included. The source efficiency considers geometry, isotopes, types of radiations, and distribution of activity (i.e., surficial or volumetric). The surface efficiency considers surface conditions (i.e., rough, smooth, accessible).

The Workgroup looked at the scan MDC calculation in MARSSIM to identify critical variables to consider for the ideal survey case. An easy survey would occur when all of the variables are known with the specified level of confidence. The variables from the scan MDC calculation are:

- Total Efficiency
- Decision Error Rates
  - $\alpha = 0$ = always contaminated = disposal without survey
  - $\beta = 0$ = always releasable = non-impacted
- Count Time
- Background
  - instrument
  - intrinsic
  - natural
- Probe Area

The framework for the guidance was defined in four groups:

1. Simplest - non-impacted
2. Ideal - no uncertainty
3. Easy - uncertainty does not affect the decision
4. Hard - uncertainty affects the decision

LUNCH

REVIEW OF CHAPTER 2

The Workgroup started the review of Chapter 2 with general comments on the entire chapter and structure of the chapter. The draft only addresses Scenario A (can something be released from controls at a specified level, MQC driven) and needs to include Scenario B (can something of

concern be detected, interdiction survey, take control of identified objects, MDC driven). Inaccessible needs to be globally changed to difficult-to-access. Include guidance on using historical data from EPA QA/G-5 2002 to update and include in section on evaluation of data. The structure needs to be revised to include concepts from September 2002 MARSSIM Workgroup meeting.

The Workgroup revised the structure of Chapter 2 and changed the title from Historical Assessment to Initial Assessment to conform with the framework and ideas from the September meeting. The revised structure of Chapter 2, Initial Assessment of Materials and Equipment, is:

2.1 Introduction
2.2 Initial Assessment Data Quality Objectives
2.3 Identify Candidate Materials and Equipment
2.4 Sources of Initial Assessment Data
2.5 Evaluation of Initial Assessment Data
2.6 Application of Initial Assessment Data
2.7 Documentation of Initial Assessment Data

Chapter 1 will include definitions of key terminology and a discussion of Data Quality Objectives. Chapter 2 will include information on IA and scoping-type surveys. The new Section 2.4 on sources of information will combine the old sections 2.4, 2.5, and 2.6. The section on background radioactivity will be moved to an appendix. Table 2.2 providing examples of radionuclides from selected types of facilities will be moved to an appendix.

The Workgroup provided specific comments with a line-by-line review of Chapter 2.

ADJOURN

Meeting Date: December 11, 2003
Date Prepared: December 18, 2003

MULTI-AGENCY RADIATION SURVEY AND SITE INVESTIGATION MANUAL (MARSSIM) WORKGROUP MEETING NOTES

THURSDAY, DECEMBER 11, 2003

ATTENDEES:

U.S. Environmental Protection Agency - OSWER/ERT-West: C. Petullo
U.S. Environmental Protection Agency - Headquarters: K. Klawiter
U.S. Environmental Protection Agency - Headquarters: L. Bender
U.S. Environmental Protection Agency - NAREL: V. Lloyd (by phone)
U.S. Environmental Protection Agency - Region II: N. Azzam
U.S. Nuclear Regulatory Commission - RES: R. Meck
U.S. Nuclear Regulatory Commission - RES: G. Powers
U.S. Nuclear Regulatory Commission - NMSS: J. DiCicco
U.S. Air Force: R. Bhat
U.S. Air Force: Major D. Caputo
U.S. Navy: S. Doremus
U.S. Department of Energy (DOE/EM): A. Williams
U.S. Department of Homeland Security (formerly DOE/EML): C. Gogolak

MEMBERS OF THE PUBLIC:

Cabrera Services, Inc.: S. Hay (U.S. Air Force Contractor)

REVIEW AND APPROVAL OF OCTOBER MEETING NOTES

The Workgroup reviewed the notes and comments from the October 22 Workgroup meeting. K. Klawiter will make the approved changes to the notes and provide a final version for posting on the web site.

GLOSSARY TERMS

The Workgroup discussed glossary terms requiring definitions. The discussion started with alternatives for “soft” data. Subsidiary, qualitative or semi-quantitative, and supplemental were discussed as alternatives.

A list of terms critical to the development of the guidance was prepared.
Surficial Radioactivity
Volumetric Radioactivity
Difficult-to-Access Areas
Release
Clearance
Soft Data
Sentinel Measurements
Surrogate Measurements
Smear
Initial Assessment
Measurable
Process Knowledge

The contractor was instructed to find or develop definitions of these terms based on Workgroup discussions, and to keep MARSAS in mind when developing definitions to ensure consistency between the supplements.

DISCUSSION OF CASE STUDY EXAMPLES

A. Williams described the first case study as a problem that could be encountered by any agency. The example was an abandoned rare metals processing facility undergoing decommissioning. The Workgroup discussed the example, and determined that the problem was too broad. Specific materials and equipment could be pulled out of the example to address in more detail. The first example was redefined to be the unrestricted release of rental heavy equipment used to demolish potentially contaminated buildings.

The discussion was based on developing DQOs for the problem. This was done to follow the structure of the guidance (which is also designed to follow the DQO Process). Since the MARSAME guidance has only been discussed up to a certain point, the discussions will reach a point where the Workgroup has not discussed how to approach the problem, and those discussions will continue at a later meeting.

Step one of the DQO Process is “State the Problem.” The problem for materials and equipment is “Can we release materials and equipment at levels below the release criterion (or criteria).” This description of the problem does not address interdiction surveys using Scenario B. The discussion covered scope and direction of the survey, as well as how to group and whether to group individual items. In power plants most items are grouped for ease of release. The Workgroup discussed the use of surrogate measurements to assist in defining groups.

The Workgroup was reminded that MARSAME surveys need to be technically defensible and stand up to scrutiny. J. DiCicco stated that NMSS does not have a checklist or inspection guide

for power plants that could be used to standardize standard operating procedures (SOPs) for surveys. R. Meck stated that SOPs are part of the final safety analysis report (FSAR) and are different for every plant. It is expected that MARSAME will result in all SOPs being reviewed and many of them may need to be revised to comply with MARSAME guidance. The concept of grouping will be included in Chapter 2. R. Meck pointed out that the definition of a simple survey changed from a single hammer to a group of similar items, while the single item survey has become a piece of equipment like a front loader.

Step two of the DQO Process is "Identify the Decision." The principal study question for the survey would be "Is the level of activity associated with the front loader greater than the $DCGL_{ME}$?" Several alternative actions were discussed:

- The front loader has activity below the free release $DCGL_{ME}$ and can be released back to the rental company,
- The front loader can be cleaned to reduce the activity levels below the free release $DCGL_{ME}$ and can be remediated, surveyed, and released back to the rental company,
- The activity associated with the front loader is greater than the free release $DCGL_{ME}$ and cannot be remediated, but the activity can be quantified so the front loader can be disposed of as radioactive waste,
- The front loader is contaminated but can be disassembled and some parts remediated and released while other parts are sent for disposal, or
- The front loader is contaminated and cannot be remediated, but can continue to be used as a front loader in controlled areas.

The $DCGL_{ME}$ will be different for free release than for controlled release. A generic decision statement would be "Determine whether or not the front loader (or rental equipment) used at the site satisfy the release criterion."

Step 3 of the DQO Process is "Identify Inputs to the Decision." The Workgroup discussed different types of information needed to resolve the decision statement.

- Action Level/Release Criterion
- Process Knowledge
  - radionuclides, equilibrium
  - homogeneous, heterogeneous, or combination
  - surficial, volumetric, or both
  - fixed, removable, or both
- Sampling and Analysis
  - MDCs and MQCs
  - instrument selection
  - measurement techniques
  - surrogates

- Background Radioactivity
  - survey before entering site
  - survey a similar machine
  - survey similar material (e.g., sheet metal) for conservative estimate
- Group
  - same site, same areas, same types of tasks, contact same materials
  - discuss different types of equipment (e.g., front loader, bulldozer, intermodal truck, trackhoe)
  - discuss similarities and potential differences (tracks vs. wheels, bucket vs. blade vs. intermodal)

Step 4 of the DQO Process is "Define the Boundaries of the Study." This step gets into defining survey units which was beyond the scope of this meetings discussions. The contractor will use the discussions to continue developing the case study example.

The Workgroup discussed case study example 8, which involved damaging a gauge containing Cs-137 and Am/Be. It was determined that this case study could only be used to provide an example of determining if items were impacted or non-impacted. Since this decision is adequately covered by other case studies, this example will not be developed for inclusion in the manual.

The Workgroup discussed case study example 2, which covers the operational release of materials and equipment during a reactor refueling outage. Following a discussion about the scope of the example, the case study was redefined to cover a portable air sampler from a nuclear reactor facility being transferred to an uncontrolled area for maintenance. The discussion used the same description of the problem, similar decision statements based on the appropriate release criterion and $DCGL_{ME}$, and generated the same list of inputs to the decision.

None of the original case study examples included an interdiction survey using Scenario B. The Workgroup defined a new case study describing a portal monitor at the entrance to an environmental measurement facility. The objective is to prevent any unexpected radiation from entering the facility and interfering with the measurements.

The results of the discussions of the case studies will be used by the contractor to develop the overview section of Chapter 1 and to make revisions to Chapter 2 and the case studies. Information on sampling and analysis as well as MDCs and MQCs will be discussed in Capters 3 and 4, but need to be introduced earlier in the document. The list of inputs to the decision will provide a framework for determining what needs to be covered by the guidance, which will continue to be reviewed and updated as more case studies are developed and the first case studies are refined.

ADJOURN

Meeting Date: December 12, 2003
Date Prepared: December 22, 2003

MULTI-AGENCY RADIATION SURVEY AND SITE INVESTIGATION MANUAL (MARSSIM) WORKGROUP MEETING NOTES

FRIDAY, DECEMBER 12, 2003

ATTENDEES:

U.S. Environmental Protection Agency - OSWER/ERT-West: C. Petullo
U.S. Environmental Protection Agency - Headquarters: K. Klawiter
U.S. Environmental Protection Agency - Headquarters: L. Bender
U.S. Environmental Protection Agency - Region II: N. Azzam
U.S. Nuclear Regulatory Commission - RES: R. Meck
U.S. Nuclear Regulatory Commission - RES: G. Powers
U.S. Nuclear Regulatory Commission - NMSS: J. DiCicco
U.S. Air Force: Major D. Caputo
U.S. Navy: S. Doremus
U.S. Department of Energy (DOE/EM): A. Williams
U.S. Department of Homeland Security (formerly DOE/EML): C. Gogolak

MEMBERS OF THE PUBLIC:

Cabrera Services, Inc.: S. Hay (U.S. Air Force Contractor)

SCHEDULE

The Workgroup discussed the schedule for completing the MARSAME supplement. It was pointed out that there is a link between the overview section of Chapter 1 and all of the rest of the chapters, and the overview requires the development of definitions for key glossary terms. Also, work on writing Chapter 7 cannot begin without first having a well-developed Chapter 5. The critical path starts with definitions for key terms, continues with the development of the overview section of Chapter 1, development of Chapter 5, and ends with the development of Chapter 7.

The Workgroup also discussed providing comments prior to the meeting, and having comments summarized and distributed to members before each meeting. The MARSSIM comment database will provide a vehicle for compiling and distributing comments.

MARSAME Section	Estimated Completion of Next Draft	Comments Due
Glossary Terms and Comment Template	1/1/2004	1/8/2004 Conference Call
Chapter 1 - Introduction and Overview	1/16/2004	1/30/2004
Chapter 2 - Initial Assessment	1/30/2004	2/13/2004
Chapters 3 and 4 - Preliminary Survey Design	3/8/2004	3/19/2004
Chapter 5 - Decision Rules, Decision Errors, and Hypothesis Testing	4/19/2004	4/30/2004
Chapter 6 - Implementation, Quality Control, Health and Safety	3/8/2004	3/19/2004
Chapter 7 - Data Quality Assessment	6/21/2004	7/2/2004
Appendices	To Be Determined	To Be Determined
Case Studies	1/30/2004	1/30/2004

A conference call was scheduled for January 8, 2004 to discuss the draft definitions of key terms, the format for submitting comments electronically, and the draft minutes from the December Workgroup meeting.

A Workgroup meeting was scheduled for February 18 - 20, 2004. The agenda will include:

Chapter 1 Overview	2 hours
Chapter 2	1 day
Case Study Examples	4 hours
Discussion of Glossary Terms	2 hours
Other Business	4 hours

A Workgroup Meeting was scheduled for March 22 - 26, 2004. Draft chapters 3, 4, and 6 will be discussed.

A Workgroup meeting was scheduled for May 11 - 14, 2004. Draft Chapter 5 will be discussed.

A Workgroup meeting is tentatively scheduled for July 19 - 23, 2004. Draft Chapter 7 will be discussed.

J. DiCicco presented the schedule for NRC rulemaking on release of materials and equipment. The proposed rule and draft guidance are expected to be published in September 2004. This requires NRC review and approval in July 2004. The final rule and guidance should be delivered to the Executive Director of Operations (EDO) in November 2005.

ADJOURN

ACTION ITEMS

All	Review IRPA paper and obtain Agency approval for presentation at a public meeting by January 31, 2004. Review December meeting draft minutes, electronic format for comments, and glossary terms by January 8, 2004 conference call. Provide electronic comments on Chapter 1 and glossary terms to contractor by January 30, 2004.
R. Meck	Provide 1 or 2 sentences describing Scenario B to include at line 542 of the September Workgroup meeting minutes.
V. Lloyd	Make approved changes to finalize the September Workgroup meeting minutes and provide final minutes to the Workgroup members for posting on the web site.
C. Gogolak	Provide DHS logo to C. Petullo. Develop draft FAQS on (1) the percentage scan-to-release issue, (2) the relationship of the MDC to the MQC, and (3) when scanning isn't possible or when scanning inefficiencies don't allow scanning to the DCGL.
K. Klawiter	Make approved changes to the October meeting notes and provide final notes to Workgroup members for posting on the web site.
N. Azzam	Will attempt to find a reference to NORM on ceramics to be added into Table 2.1.
C. Petullo	Design and distribute MARSAME logo to Workgroup.
S. Hay	Distribute draft minutes from December meeting by December 18, 2003. Provide draft glossary definitions and electronic format for comments by January 1, 2004. Distribute Chapter 1 overview section and revised glossary terms by January 15, 2004. Distribute revised Chapter 2 and Case Study Examples by January 30, 2004. Distribute comments on glossary definitions and Chapter 1 by January 30, 2004.